

Exposure Control Areas

WAC 296-848-400

Section Contents



YOUR RESPONSIBILITY:

To protect employees from exposure to inorganic arsenic by using feasible exposure controls and appropriate respirators

IMPORTANT:

- These sections apply when employee exposure monitoring results are above the permissible exposure limit (PEL) of 10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air.

Exposure control plan WAC 296-848-40005	400-2
Exposure controls WAC 296-848-40020	400-4
Exposure control areas WAC 296-848-40025	400-5
Clean-up facilities and lunchrooms WAC 296-848-40030	400-7
Personal protective equipment WAC 296-848-40040	400-8
Respirators WAC 296-848-40045	400-11



Exposure Control Areas

WAC 296-848-400

Rule

WAC 296-848-40005

Exposure control plan

IMPORTANT:

- Use of employee rotation to control exposures isn't advisable since inorganic arsenic is a known carcinogen.

You must

- Establish and implement a complete written exposure control plan that includes at least the following, for exposure control areas:
 - A description of each operation releasing inorganic arsenic, for example:
 - Crew size
 - Current exposure controls
 - Materials processed
 - Machinery used
 - Operating procedures
 - Maintenance practices.
 - Exposure evaluation data.
 - A report of the technology considered for exposure controls.

-Continued-

Exposure Control Areas

WAC 296-848-400

Rule



WAC 296-848-40005 (continued)

You must

- Engineering plans and studies used as a basis for selecting exposure controls.
- A detailed schedule for implementing:
 - Feasible exposure controls, if immediate implementation isn't possible.
 - Changes to enhance current exposure controls, when necessary.
- An analysis of the effectiveness of the exposure controls considered, when controls won't reduce exposures to or below the permissible exposure limit (PEL).
- Other relevant information.
 - Review and update your exposure control plan at least every 6 months to keep it current.
 - Implement exposure controls on the quickest schedule feasible if controls won't reduce exposure to or below the PEL.
 - Provide a copy of your exposure control plan to affected employees and their designated representatives, when they ask to review or copy it.



Exposure Control Areas

WAC 296-848-400

Rule

WAC 296-848-40020

Exposure controls

IMPORTANT:

- Use of employee rotation to control exposures isn't advisable since inorganic arsenic is a known carcinogen.
- Respirators and other personal protective equipment (PPE) don't substitute for feasible exposure controls.

You must

- Use feasible exposure controls to reduce exposures to or below the permissible exposure limit (PEL), or as low as achievable.



Reference:

- To see examples of exposure controls go to Respiratory Hazards, Chapter 296-841 WAC, and find Table 1 in the section, Control employee exposure, WAC 296-848-20010.

Exposure Control Areas

WAC 296-848-400

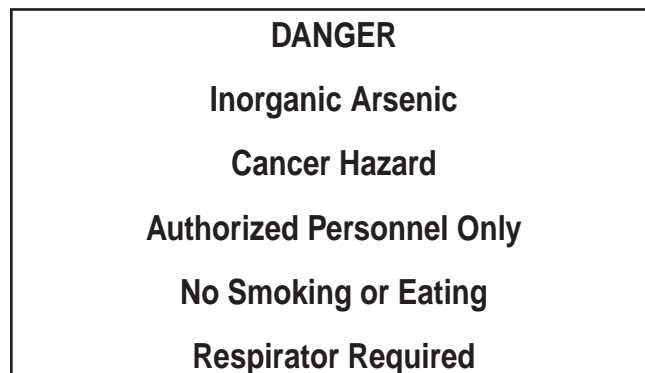
Rule

WAC 296-848-40025

Exposure control areas

You must

- Establish temporary or permanent exposure control areas where airborne concentrations of inorganic arsenic are above the permissible exposure limit (PEL) by doing all the following:
 - Distinguish the boundaries of exposure control areas from the rest of the workplace in any way that minimizes employee access.
 - Allow only authorized personnel to enter exposure control areas.
 - Post signs at access points to exposure control areas that include this warning:



- Make sure signs are kept clean and well lit so they are easy to read.
- Keep signs and areas near them free of statements that contradict or detract from their message.



Note:

- This requirement doesn't prevent you from posting signs required by other laws, rules, or ordinances.

-Continued-

<http://www.lni.wa.gov/>

Exposure Control Areas

WAC 296-848-400

Rule

WAC 296-848-40025 (continued)

You must

- Make sure employees entering exposure control areas have an appropriate respirator.
- Prevent all of the following activities from occurring in exposure control areas unless they are conducted in required lunchrooms, change rooms, or showers:
 - Eating food or drinking beverages
 - Smoking
 - Chewing tobacco or gum
 - Applying cosmetics.



Note:

- You may use permanent or temporary enclosures, caution tape, ropes, painted lines on surfaces, or other materials to visibly distinguish exposure control areas or separate them from the rest of the workplace.
- When distinguishing exposure control areas, you should consider factors such as:
 - The level and duration of airborne exposure.
 - Whether the area is permanent or temporary.
 - The number of employees in adjacent areas.



Reference:

- To see other requirements for respirators within this chapter, go to Respirators, WAC 296-848-40045.

Exposure Control Areas

WAC 296-848-400

Rule



WAC 296-848-40030

Clean-up facilities and lunchrooms

You must

- Provide the following facilities for employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas:
 - Clean change rooms with separate storage for street clothes and personal protective equipment (PPE).
 - Shower facilities.
- Make sure employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas:
 - Shower at the end of the work shift**and**
 - Wash their hands and face before eating.
- Provide lunchrooms for employees working in exposure control areas that are:
 - Located so they are readily accessible to the employees.
 - Temperature controlled.
 - Under positive pressure compared to surrounding areas.
 - Provided with a filtered air supply.



Note:

- Lunchrooms may be located within exposure control areas, but are considered separate from the exposure control area.

-Continued-



Exposure Control Areas

WAC 296-848-400

Rule

WAC 296-848-40030 (continued)

You must

- Do the following when exposures in exposure control areas exceed an 8-hour time-weighted average of 100 micrograms of arsenic per cubic meter of air ($\mu\text{g}/\text{m}^3$):
 - Provide facilities for employees working in exposure control areas where they can remove excess contamination from protective clothing and shoes.
 - Make sure employees vacuum protective clothing and clean or change shoes before entering showers, change rooms, or lunchrooms.



Reference:

- To see additional requirements for hygiene facilities:
 - Go to the Safety and Health Core Rules, Chapter 296-800 WAC.
 - Find Drinking water, bathrooms, washing facilities, and waste disposal, WAC 296-800-230.

WAC 296-848-40040

Personal protective equipment (PPE)

You must

- Provide, make sure employees use, and maintain PPE as follows:
 - Provide clean and dry protective clothing to employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas.
 - Provide impervious protective clothing to employees exposed to arsenic trichloride.

-Continued-

Exposure Control Areas

WAC 296-848-400

Rule

WAC 296-848-40040 (continued)



Note:

- Arsenic trichloride is corrosive and can be rapidly absorbed through skin.
- Examples of protective clothing appropriate for inorganic arsenic exposures include:
 - Coveralls or similar full-body work clothing.
 - Gloves, and shoes or coverlets.
 - Face shields or vented goggles when necessary to prevent eye irritation.

You must

- Make sure employees don't remove inorganic arsenic from PPE by blowing or shaking.
 - Make sure protective clothing is removed:
 - In change rooms
- and**
- At the end of the work shift.
- Make sure contaminated protective clothing that will be cleaned, laundered, or disposed of, is placed in a closed container located in the change room.
 - Make sure the container prevents the release of inorganic arsenic.



-Continued-



Exposure Control Areas

WAC 296-848-400

Rule

WAC 296-848-40040 (continued)

- Launder protective clothing:
 - At least weekly if employees work in areas where exposure monitoring results of inorganic arsenic are below an 8-hour time-weighted average concentration of 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)
- or**
- Daily if employees work in areas where either exposure monitoring results of inorganic arsenic are above an 8-hour time-weighted average concentration of 100 $\mu\text{g}/\text{m}^3$ or when more frequent washing is needed to prevent skin irritation.
- Maintain the effectiveness of PPE by repairing or replacing it, as needed:
 - Dispose of protective clothing if it won't be repaired.
- Inform individuals who clean or launder protective clothing about the possible health effects associated with inorganic arsenic, including carcinogenic effects, by doing the following:
 - Provide the information in writing
- and**
- Label containers of contaminated PPE with the following warning:

Caution:
Clothing contaminated with inorganic arsenic
Don't remove dust by blowing or shaking
Dispose of inorganic arsenic contaminated
wash water as applicable local, state, or federal
regulations require



Reference:

- To see additional Personal protective equipment requirements go to the Safety and Health Core Rules, Chapter 296-800 WAC, and find the section titled, PPE, WAC 296-800-160.

Exposure Control Areas

WAC 296-848-400

Rule



WAC 296-848-40045

Respirators

IMPORTANT:

- The requirements in this section are in addition to the requirements found in other chapters:
 - Respiratory Hazards, Chapter 296-841 WAC.
 - Respirators, Chapter 296-842 WAC.

You must

- Provide respirators and require that employees use them in circumstances where exposure is above the permissible exposure limit (PEL), including any of the following circumstances:
 - Employees are in an exposure control area
 - Feasible exposure controls are being put in place
 - Where you determine that exposure controls aren't feasible
 - Feasible exposure controls don't reduce exposures to, or below, the PEL
 - Emergencies.
- Make sure air-purifying respirators selected have high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 filters.

-Continued-

<http://www.lni.wa.gov/>

400-11

05/05



Exposure Control Areas

WAC 296-848-400

Rule

WAC 296-848-40045 (continued)

You must

- Provide an employee a powered air-purifying respirator (PAPR) when this type of respirator will provide proper protection and:
 - A licensed healthcare professional (LHCP) allows this type of respirator in their written opinion.
- or**
- The employee chooses to use this type of respirator.
- Prohibit the use of half-facepiece respirators for protection against arsenic trichloride.



Note:

- Arsenic trichloride is corrosive and can be rapidly absorbed through skin.